

# Notice of Allowability

Application No.

10/689,281

Examiner

Blair M. Johnson

Applicant(s)

ALTIMORE, LARRY J.

Art Unit

3634

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment of 5/19/05 and tel. int. of 7/28/05, & 7/29/05
2. ☒ The allowed claim(s) is/are 65-96.
3. ☒ The drawings filed on 23 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10/23/03; 2/17/04; 10/22/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date attached.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert Earp on 7/28/05.

The application has been amended as follows:

**Note:**

A preliminary amendment filed on 1/25/05 crossed in the mail with the Office action of 2/9/05 and, consequently, was not considered. However, it has been entered and claims 1-32 have been canceled and claims 33-64 have been entered. Applicant has indicated his desire to keep original claims 1-32, as amended below, in the case and to withdraw claims 33-64. In this amendment, original claims 1-32 have been copied, as originally filed with amendments made thereto, and reintroduced as claims 65-96.

Claims 33-64 have been canceled.

Claims 1-32 have been rewritten and amended as claims 65-96, as follows:

65. An operating mechanism for a door comprising:  
a pair of side drums operatively connected via a first flexible member to the door;  
at least one pair of gas struts; and  
a pair of cable drums operatively connected via a second flexible member to the  
gas struts; the cable  
drums and side drums being coaxially mounted for simultaneous rotation;  
whereby the side drums and cable drums are rotatable in a first direction to  
close the door and in a second direction to open the door; and when the side  
and cable drums are rotated in the first direction, the gas struts are charged and  
when the side and cable drums are rotated in the second direction, the gas  
struts are discharged ; the second flexible member movably contacting a portion  
of the gas struts during the charging and discharging.

66. The door operating mechanism as claimed in claim 65, in which the first  
flexible member is ~~each of the side drums is operatively connected to the door by~~  
a first cable.

67. The door operating mechanism as claimed in claim 66, in which each first  
cable has a first end and a second end; and the first end is connected to  
the side drum and the second end is adapted to be attached to the sides  
of the door, proximate the door bottom.

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68. The door operating mechanism as claimed in claim 66, in which each side drum is helical and includes a plurality of concentric graduations of increasing diameter and the first cable is wound onto or off of the graduations as the side drum rotates.

69. The door operating mechanism as claimed in claim 68, in which each graduation includes a groove and a lip; and the first cable is wound onto and off of the grooves of the graduations.

70. The door operating mechanism as claimed in claim 66, in which the second flexible member is ~~each gas strut is operatively connected to its respective cable drum by~~ a second cable, the second cable being wound onto or off of the cable drum as the cable drum rotates.

71. The door operating mechanism as claimed in claim 70, wherein the first cable is wound onto the side drum when the second cable is unwound from the cable drum and wherein the first cable is unwound from the side drum when the second cable is wound onto the cable drum.

72. The door operating mechanism as claimed in claim 70, in which the cable drums and side drums are mounted on a single shaft and the cable drums are mounted proximate the ends of the shaft and the side drums are mounted inwardly of the cable drums.

73. The door operating mechanism as claimed in claim 70, further comprising a pair of shiv wheels, each shiv wheel being operatively connected to one of the gas struts, each shiv wheel being configured to receive the respective second cable therearound;  
a pair of spaced apart guide tracks; and  
a pair of brackets, each bracket operatively attaching one of the shiv wheels to one of the guide tracks, whereby the brackets and shiv wheel move along the guide tracks toward or away from the cable drum as the second cable is wound respectively onto and off of the cable drum.

74. The door operating mechanism as claimed in claim 73, in which the guide tracks are mounted substantially parallel to the ceiling of the building in which the door is installed.

75. The door operating mechanism as claimed in claim 73, in which the guide tracks are mounted on either side of the door opening.

76. The door operating mechanism as claimed in claim 73, in which the second cable has a first end which is connected to the cable drum and a second end which is connected to the guide track.

77. The door operating mechanism as claimed in claim 73, further comprising:  
a connector;  
a hole formed in the shiv wheel; and  
a vertically aligned slot formed in the bracket,  
whereby the shiv wheel  
is connected to the bracket by the connector being  
received through the vertically aligned slot and the hole and the connector is  
able to partially slide up and down within the vertically aligned slot as the shiv  
wheel moves toward or away from the cable drum.

78. The door operating mechanism as claimed in claim 73, in which the gas strut includes a cylinder and a piston rod and the shiv wheel is connected to the piston rod.

79. The door operating mechanism as claimed in claim 78, in which the gas strut is connected to the piston rod by an U-shaped bracket, whereby the movement of the shiv wheel toward the cable drum as the door closes causes the piston rod to be forced into the cylinder, and the movement of the shiv wheel away from the cable drum as the door is opened allows the piston rod to withdraw from the cylinder.

80. The door operating mechanism as claimed in claim 65, further comprising a second gas strut operatively connected to the gas strut.

81. The door operating mechanism as claimed in claim 80, in which the gas strut and second gas strut are at least partially disposed within a cylindrical tube.

82. The door operating mechanism as claimed in claim 81, in which the gas strut and second gas strut are able to at least partially telescope into and out of the tube.

83. The door operating mechanism as claimed in claim 82, in which each of the gas strut and second gas strut include a piston rod and a cylinder; and the piston rod of the second gas strut is connected to the cylinder of the gas strut.

84. The door operating mechanism as claimed in claim 83, further comprising  
a connector plate;  
at least one connector; and  
in which the piston rod of the second gas strut is connected to the  
cylinder of the gas strut by the connector plate and the at least one connector.

85. The door operating mechanism as claimed in claim 84, further comprising:  
the first flexible member comprising a pair of first cables, each first cable  
operatively connecting the door to  
the respective side drum;  
the second flexible member comprising a pair of second cables; each second  
cable operatively connecting the  
respective cable drum to the gas strut;  
a pair of guide tracks;  
a pair of brackets, each bracket being adapted to slide along the respective guide  
track;  
a pair of shiv wheels, each shiv wheel being attached to its respective  
bracket and each shiv wheel being configured to receive the respective second  
cable therearound; and  
in which the shiv wheels and brackets are moved along the guide tracks toward  
or away from the cable drums as the second cables are wound respectively onto  
and off of the cable drums.



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86. The door operating mechanism as claimed in claim 85, in which the combined stroke of the gas strut and second gas strut is in the range of 15 to 30 inches.

87. A door operating mechanism for opening and closing a sliding door; the mechanism comprising:

a shaft adapted to be mounted proximate an opening in a wall;

a pair of side drums mounted proximate opposing free ends of said shaft;

a pair of cable drums, each cable drum being mounted between one of said side drums and the corresponding free end of the shaft;

a pair of first cables, each of said first cables connected at one end to one of said side drums and being adapted to be connected to the bottom of on side of the door; each of said first cables being windable onto and off of said corresponding side drum;

a pair of guide tracks;

a pair of shiv wheels, each of said shiv wheels being mounted for reciprocal movement along one of said guide tracks;

a pair of second cables, each of said second cables secured at one end to one of said cable drums and at the other end to one of said guide tracks, and in which each of said second cables is wound at least partially around one of said shiv wheels;

at least one pair of gas struts, each of said gas struts being operationally

connected to one of said shiv wheels; in which rotational movement in the shaft causes the first cables to be wound either onto or off of the side drums and simultaneously causes the second cables to be wound either onto or off of the cable drums, and further causes motion in said shiv wheels thereby either charging or discharging the gas struts.

88. The door operating mechanism of claim 87, in which the side drums are helical and include a plurality of concentric graduations of increasing diameter and the respective first cables are each wound onto or off of the graduations.

89. The door operating mechanism of claim 88, further comprising a second gas strut, the second gas strut being operatively linked to the gas strut.

90. The door operating mechanism of claim 89, in which each gas strut and second gas strut are contained within a tube and the gas strut and second gas strut telescope at least partially in and out of the tube in response to movements by the respective shiv wheel.

91. The door operating mechanism of claim 90, in which the gas strut and second gas strut have a combined stroke in the range of 15 to 30 inches.

92. The door operating mechanism of claim 91, in which each pair of the gas strut and second gas strut are mounted at an inclined angle relative to the guide track.

93. The door operating mechanism of claim 92, in which each bracket includes a slot that allows for slight vertical movement of the shiv wheel as it moves along the guide track.

94. The door operating mechanism of claim 92, in which the guide tracks are mounted substantially parallel to the ceiling of the building in which the door is installed.

95. The door operating mechanism as claimed in claim 92, in which the guide tracks are mounted on either side of the door opening.

96. A method of raising or lowering a door comprising the steps of:

a) providing a door operating mechanism having;  
a pair of side drums operatively connected to the door;  
at least one pair of gas struts; and  
a pair of cable drums operatively connected to the gas struts; the  
and side drums being coaxially mounted on a shaft for  
cable drums

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simultaneous rotation; whereby the side drums and cable drums are rotatable in a first direction to close the door and in a second direction to open the door; and when the side and cable drums are rotated in the first direction, the gas struts are charged and when the side and cable drums are rotated in the second direction, the gas struts are discharged;

b) actuating the door operating mechanism so as to cause the rotation of the shaft so that the side drums and cable drums rotate in one of the first direction and second direction to respectively open or close the door.

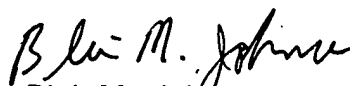
### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blair M. Johnson whose telephone number is (571) 272-6830. The examiner can normally be reached on Mon.-Fri., 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on (571) 272-6777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Blair M. Johnson  
Primary Examiner  
Art Unit 3634

BMJ  
7/28/05